

The Role of Forum Discussion in the Online Learning Modality of Senior High School Students

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Abstract

The new normal has brought changes in the teaching-learning platform. Different modalities were implemented to ensure the continuation of education, but some nations had decided to close their educational system amidst the pandemic. The Philippines have decided to enter the synchronous and asynchronous modality of learning. This study aimed to know the role of online recitation through forum discussion in the synchronous learning modality. Thirty grade 11 STEM students were chosen purposely for this study. Google Classroom was the online platform used by the researchers, the classwork section of the google classroom was utilized where questions were posted, and responses were placed by the students. Rubric scoring was used to grade the works of students. The result of the study showed that there is no significant difference in the performance of students in terms of participation, quality of posts, plagiarism, and students' attitudes.

Keywords: online recitation; forum discussion; plagiarism; synchronous modality; MELC

1. Introduction

The COVID-19 pandemic caused a significant change in the life of all things on earth. Almost everything is closed, and only the establishment that offers essential goods can operate. Countries and cities were closed for quarantine to avoid the spread of the virus. Everything is now in the new normal that makes education at all levels become uncertain due to the closure of schools, colleges, and universities (Aacharya, 2020) and forced educators across the globe to re-think how to deliver their courses in an alternative format (Drohan et al., 2020). Luckily, we are in the 21st century, and information is just a click away. Education in the 21st century is the most crucial in its timeline. The students of this era are technologically advanced. They best learn at their own pace, made possible by the technology around them, which is handy and mostly everywhere (Tiria & Caballes, 2020). The learning environment of this generation is very virtual. Information is mostly a click away. Classroom Technologies have become essential in carrying out daily learning activities (*Modern Consumers*, 2021). Today's schools (Blackburn-Dwyer, 2016) are changing. Incorporating digital advances into the classroom was inevitable and necessary; furthermore, it prepares students for their future. Education must utilize the most advanced tools and techniques available. There are several ways on how to use technology in the classroom. EdTechReview (Gupta, 2016) listed five teaching strategies to engage students using technology. First is the use of multimedia, Vivid images, videos, instantaneous information, all of this capture attention from students easily; second is the utilization of social media as various vital aspects that are integral part of teaching like collaboration and interaction can happen seamlessly via social media; third is using variety of resources like mixing things up and add some engagement, thus the source of the information is not just limited to books in 21st century instead you can use podcasts, videos, OERs, blogs and other resources to deliver knowledge; fourth is making most of the game and perks of gamification, using [educational games](#) is one of the best ways to use technology in the classroom

to make students eager for learning and [gamification can be used as a framework](#) for education that can be used anywhere and in any level of complexity; and the fifth is use technology to empower students and reach out, because Technology nurtures artistic expression and engaged students are those who actively express opinions, and don't just passively 'receive wisdom'.

Faced with the challenges of New Normal, the researchers aimed to find out the role of online recitation in the academic strand of senior high school. This study was limited to the topic provided by the Department of Education listed in the Most Essential Learning Competencies. This research also aimed to help educators maximize and utilize the function of forum discussion, whether in the time of pandemic or not.

2. Literature Review

2.1 Recitation

Recitation aims to help students learn how to put what they have learned in class into practice (*Recitations and Labs: Suggestions for Teaching Assistants | Graduate Studies | Nebraska*, n.d.). Educators may assist them by providing insight into the rationale that led to a solution. It is essential, however, that students participate fully in the recitation. Several researchers dealt with students' recitation in face-to-face and online teaching methods (Endorf et al., 2006; Molinari & Mameli, 2013; Staveley-O'Carroll, 2015; Umar & Aziz, 2015; Watt et al., 2014; Wibowo et al., 2018). Wibowo et al. (2018) encouraged teachers to consider learning by alternative effort recitation methods of increasing interest and student learning outcomes; increasing students' interest is increasing their attitude towards the subject. Amidst pandemic, schools have implemented online modality which includes synchronous and asynchronous learning. Students' success (Duncan et al., 2012) improved by promoting high-quality and regular participation in synchronous and asynchronous forums. Camus et al. (2016) compared the effects of a Facebook-based and LMS-based online discussion forum. They found out that different forums may affect classroom dynamics, personal approaches, changing variables, and mediated attributes (Ozaydin Ozkara & Cakir, 2018). Papastergiou et al. (2011) created an Online Learning Community (OLC) for the implementation of Environmental Education (EE). OLC had positive effects on students' knowledge and attitudes towards the natural environment, on their social skills as well as their attitudes and skills regarding ICT and established a strong sense of community (2000) as students engaged in dialogue with each other and with the instructor, hence affected by technology and interface characteristics, content area experience, student roles and instructional tasks, and information overload (Vonderwell & Zachariah, 2005).

2.2 Online Interaction

The role of interaction in online learning has been a common subject in the educational process (Anderson & Christiansen, n.d.) and online discussions have been analyzed critically by education researchers (Masters & Oberprieler, 2004; So, 2009; Yukselturk, 2010). Participation is generally agreed to be critical to student success, particularly in online courses (Anderson & Christiansen, n.d.). The success and utility of online context-related discussions have been documented as well (Davidson-Shivers et al., 2001; Yilmaz & Tuzun, 2001). Active student participation (Anderson & Christiansen, n.d.) is essential to the success of online learning and learners should take actions to utilize the affordances of technical interactivity for ongoing communication and engagement, and in turn, this activation needs to affect the development of connected feelings with other human actors (So, 2009). in the proportion of outside references cited and posted by students, thus, recommended instructors to make some listserv participation mandatory.

Issues related to how students participate, primarily based on the quality, number and types of responses continue to be examined (Davidson-Shivers et al., 2001; Durrington & Yu, 2004) as researchers try to understand the relationship between students' online participation and success in terms of learning and grades. For example, Durrington and Yu (2004) investigated communication-based differences in education

courses of both undergraduate and graduate students when the discussions were instructor-moderated versus peer-moderated. No significant differences were found between undergraduate or graduate-level students; however, when a discussion was moderated by the instructor all students were more or less active in the discussion. The strongest indicator of student performance in online classes was the students' participation in discussion boards, measured by usage (Alstete & Beutell, 2004). This finding was supported by the fact that usage was positively and significantly related to overall course performance.

3. The Problem and Hypothesis

3.1 Statement of the Problem

The main goal of this study is to know the role of online recitation through forum discussion in the online learning modality of senior high school academic track students, specifically it sought the following questions:

1. What is the performance of the students in online recitation through forum discussion in terms of quality of participation?
2. What is the performance of the students in online recitation through forum discussion in terms of quality of responses?
3. What is the performance of the students in online recitation through forum discussion in terms of plagiarism?
4. What is the attitude of the students in online recitation through forum discussions?

3.2 Hypothesis

The following are the null hypotheses of the study tested at $\alpha = 0.05$ level of significance:

1. There is no significant difference in the performance of students in online recitation through forum discussion in terms of participation.
2. There is no significant difference in the performance of students in online recitation through forum discussion in terms of quality of responses.
3. There is no significant difference in the performance of students in online recitation through forum discussion in terms of plagiarism; and
4. There is no significant difference in the attitude of students in online recitation through forum discussion.

4. Methodology

4.1 Research Design

The study deployed a quasi-experimental research design. The participants were chosen purposively, thirty grade 11 STEMS students taking up Earth Science subjects were divided into two: the dependent group where the students were reminded to participate in forum discussion twice a week and the independent group where the students were allowed to work at their own pace. Five different topics were chosen and placed in the question section of the student's activity in the google classroom. Posting of forum discussion is done in one-week intervals. A one-week time frame is given to the students to respond to forum discussions.

4.2 Procedure

One week before the actual posting of forum discussions the students were oriented with the purpose of the activity. It was pinpointed that their responses will be considered their recitation for the specific topic. The responses were checked after the given period for the students. A rubric scoring was used to rate the performance of the responses in terms of quality similar to the work presented by Murphy and Fortner (2014) and plagiarism.

A survey on students' attitudes towards online recitation was given to the students similar to the survey presented by Alzahrani (2017). The following scale was used to assess the attitude of respondents

Options	Scale Rating	Adjectival Rating	Interpretation
5	4.2 – 5.0	Strong Agree	Very Positive
4	3.4 – 4.19	Moderately Agree	Positive
3	2.6 – 3.39	Neutral	Neutral
2	1.8 – 2.59	Disagree	Negative
1	1.0-1.79	Strongly Disagree	Very Negative

5. Results

The following were the result of the study following the sequence presented in the statement of the problem.

Table 1. Students' Participation in Online Recitation through Forum Discussion

Group	Mean	SD	t-value	Significant value	Interpretation	Decision
Dependent	4.64	0.50	0.77	0.45	Significant	Reject HO
Independent	4.50	0.52				

$$\alpha=0.05$$

Table 1 shows the t-Test computation for the student's participation in online learning through forum discussion. It can be gathered from the table that the mean score of the dependent group ($x=4.64$, $SD=0.50$) is higher than the independent group ($x=4.50$, $SD=0.52$) with a corresponding t-value of 0.77 and a significant value of 0.45 which is higher than $\alpha=0.05$, hence rejecting the null

hypothesis. The result of computation shows that whether the students are reminded or not, they tend to respond to the forum discussion on the regular basis. Computer-mediated communication (CMC) technologies have become an important element of both face-to-face and online education to increase both the amount and quality of interaction and participation in courses, which in turn affects student achievement (Alavi, 1994; Beuchot & Bullen, 2007). Beuchot and Bullen (2007) suggest that one key to a successful virtual community may lie in ensuring that its members make meaningful interpersonal connections before they are asked to engage in cognitive tasks (Beuchot).

The result of the student's participation does not agree with some studies. They argue that students do not meet expectations for participation (Dennen, 2007; Palmer et al., 2008), discussions often suffer from low levels of student involvement (Hew et al., 2010) limited student contribution is defined as students making few or no postings, or students exhibiting surface-level thinking or low-level knowledge construction in online discussions (Wise et al., 2013). Thomson and Savan (2007) certain students who felt they needed more assistance from faculty or peers may have participated more and therefore brought their level of performance up to the level of their non participating peers. These results may be true to a non-pandemic situation, but the new normal has brought new ways in the participation of the students as this year all activities are done online.

Table 2. Students' Performance in Online Recitation through Forum Discussion

Group	Mean	SD	t-value	Significant value	Interpretation	Decision
Dependent	4.32	0.39	-0.73	0.47	Significant	Reject HO
Independent	4.41	0.26				

$\alpha=0.05$

Table 2 shows the t-Test computation for the students' performance in online learning through forum discussion. It can be gathered from the table that the mean score of the dependent group ($x=4.32$, $SD=0.39$) is lower than the independent group ($x=4.41$, $SD=0.26$) with a corresponding t-value of -0.73 and a significant value of 0.45 which is higher than the $\alpha=0.05$, hence rejecting the null hypothesis. Based on the result whether the students are reminded about their task in forum discussion or not they tend to perform well. In addition, levels of student participation (i.e., numbers of student postings) have been linked to greater depths and kinds of student learning (Mazzolini & Maddison, 2003). Student participation and the quality of student responses have been associated with increased learning as well (Althaus & Althaus, 1997; Wang & Newlin, 2000) as well as creating a learning environment that will elicit quality student discussions (Bryant, 2005). It is noted that the reason for the similarities in the performance of the student's responses may be due to the reason that the learners have been exposed to the kind of strategies since the start of the pandemic and the fact that the students were trained in one of their courses reading and writing. Wibowo et al. (2018) encouraged teachers to consider learning by alternative effort

recitation methods of increasing interest and student learning outcomes; increasing students' interest is increasing their attitude towards the subject. Amidst pandemic, schools have implemented online modality which includes synchronous and asynchronous learning. Students' success (Duncan et al., 2012) improved by promoting high-quality and regular participation in synchronous and asynchronous forums. The strongest indicator of student performance in online classes was the students' participation in discussion boards, measured by usage (Alstete & Beutell, 2004). This finding was supported by the fact that usage was positively and significantly related to overall course performance.

Table 3. Students' Plagiarism in Online Recitation through Forum Discussion

Group	Mean	sd	t-value	Significant value	Interpretation	Decision
Dependent	4.32	0.04	-1.08	0.29	Significant	Reject HO
Independent	4.41	0.48				

$\alpha=0.05$

Table 3 shows the students' plagiarism in online recitation through forum discussion. It can be gathered from the table that the mean score of the dependent group ($x=4.32$, $SD=0.04$) is lower than the independent group ($x=4.41$, $SD=0.48$) with a computed t-value of -1.08 with a corresponding statistical value of 0.29 which is higher than the $\alpha=0.05$, hence rejecting the null hypothesis. The result of the t-test showed that there is minimal plagiarism between the two groups. This may be because students were oriented first with the type of rubrics that will be used in grading them. When the students were asked about plagiarism, 86% from the dependent group and 80% from the independent group said that one of the topics in the subject research in daily life discusses plagiarism and its ill effect. They were taught how to cite, paraphrase and quote. The forum discussion may be found by the students to be engaging, activities that are engaging and relevant to students' interests can help reduce plagiarism (Ma et al., 2007). And since the checking of the forum is done regularly, the researcher observed that the students are very excited to know their rating in every submission. The students tend to ask questions on how they can improve their work next time to get a better score.

Table 4. Students' Attitude on the use Forum Discussion

Statement	Mean	Adjectival rating	Verbal Interpretation
It is very interesting.	4.53	Strong Agree	Very Positive
It motivates me to participate.	4.63	Strong Agree	Very Positive
It enhances my ideas on the topics.	4.50	Strong Agree	Very Positive

I believe it will enhance my academic achievement.	4.53	Strong Agree	Very Positive
It is worthwhile answering it.	4.53	Strong Agree	Very Positive
It enhances my critical thinking skills	4.07	Strong Agree	Very Positive
I would like to have another course that uses forum discussion.	3.47	Moderately Agree	Positive
It enhances my thinking skills.	4.03	Strongly Disagree	Very Positive
It makes me enjoy reading other responses.	4.13	Strongly Disagree	Very Positive
I would recommend to others to use forum discussion.	3.83	Moderately Agree	Positive
Composite mean	4.23	Strong Agree	Very Positive

Table 4 shows the attitude of students towards online recitation through forum discussion. It can be gathered from the table that the students are very positive ($x=4.23$, strongly agree) about the use of forum discussion. The students strongly agree and feel very positive that forum discussion motivates them ($x=4.63$), is very interesting and enhances their academic achievement and worthwhile to answer ($x=4.53$), enhances ideas ($x=4.50$) and critical thinking skills ($x=4.50$), enjoys reading other responses ($x=4.13$) and enhances problem skills ($x=4.03$). Online asynchronous tools support quality discussions and collaborative learning (Brower, 2017), reaffirming the benefit of the depth of the discussion and collaboration, the exploitation of Asynchronous Online Discussions forums offers students the possibility to teach and learn anytime and anywhere (Andujar, 2019). In addition, teacher interaction is very important by creating a welcoming environment, promoting interaction, and giving feedback can raise the interest of the students (de Lima et al., 2019).

Students are positive that they are willing to use forum discussion in other subjects ($x=3.47$) and would recommend to others the use of forum discussion ($x=3.83$). Online recitation through forum discussion can create a positive attitude among the students.

Table 5. Students' Attitude in Online Recitation through Forum Discussion

Group	Mean	sd	t-value	Significant value	Interpretation	Decision
Dependent	4.27	0.38	0.85	0.40	Significant	Reject HO
Independent	4.18	0.24				

$\alpha=0.05$

Table 5 shows the students' attitude towards online recitation through forum discussion. It can be gathered from the table that the mean score of the dependent group ($x=4.27$, $sd=0.38$) is higher than the independent group ($x=4.18$, $sd=0.24$) with a computed t-value of 0.85 and a corresponding statistical value of 0.40 which is higher than the $\alpha=0.05$ hence interpreted significant rejecting the null hypothesis. Factors such as the availability of the internet, preference for traditional learning, life commitments, and experience with ICT and online education may affect student satisfaction with using ODFs (Alzahrani, 2017), students' accessibility was made easy towards online learning, then an appropriate attitude of students will be developed to its usability (Ullah et al., 2017). Papastergiou et al. (2011) created an Online Learning Community (OLC) for the implementation of Environmental Education (EE). OLC had positive effects on students' knowledge and attitudes towards the natural environment, on their social skills as well as their attitudes and skills regarding ICT and established a strong sense of community (Poole, 2000) as students engaged in dialogue with each other and with the instructor, hence affected by technology and interface characteristics, content area experience, student roles and instructional tasks, and information overload (Vonderwell & Zachariah, 2005).

Based on the responses of the students there are some challenges that they encounter while responding in forum discussions. It includes the quality of wifi/internet connections, there are times that the internet connections were interrupted and the types of gadgets the students are using. Some are outdated and there is difficulty in accessing the platform used.

6. Summary, Conclusion and Recommendation

6.1 Summary

The following are the summary of the study:

1. The role of recitation through forum discussion has proven that the students are posting regularly whether reminded regularly or not and this is because everything is explained to them at the beginning.
2. The quality of posts done by the students is generally good based on the rubrics presented to them. In line with this. It is very important to make the rubric grading public for everyone to access it.
3. Plagiarism is observed at a very low percentage, the clarification about plagiarism and how it affects their work were clarified at the beginning of the study.
4. Students' attitude towards the use of forum discussion is very positive.

6.2 Conclusion

The following are the conclusion of the study:

1. In terms of performance, the null hypothesis stating that there is no significant difference in the performance of students in online recitation through forum discussion in terms of participation was accepted.
2. In terms of performance in terms of quality, the null hypothesis stating that there is no significant difference in the performance of students in online recitation through forum discussion in terms of quality of responses was accepted.

3. In terms of plagiarism, the null hypothesis stating that there is no significant difference in the performance of students in online recitation through forum discussion in terms of plagiarism was accepted.
4. In terms of attitude, the null hypothesis states that there is no significant difference in the attitude of students in online recitation through forum discussion.

6.3 Recommendation

The following are the recommendations from this study:

1. Test the effectiveness of forum discussion in other senior high school subjects.
2. Distinguished the factors that affect the participation of students in forum discussions.
3. Correlate plagiarism with the academic performance of the learner.
4. Test the effect of forum discussion on the academic performance of students.

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